

Newcastle upon Tyne JSNA: Obesity in Children October 2008

What do we know?

Facts and Figures

- 'Overweight' and 'obesity' are terms used to describe increasing degrees of excess body fat which can lead to increasingly adverse effects on health and wellbeing.
- Potential problems include respiratory difficulties, chronic musculoskeletal problems, depression, relationship problems and infertility. The more life-threatening problems fall into four main areas: cardiovascular disease problems; conditions associated with insulin resistance such as type 2 diabetes; certain types of cancers, especially the hormone related and large bowel cancers; and gallbladder disease. The likelihood of developing life-threatening problems such as type 2 diabetes rises steeply with increasing body fatness (Strategy, 2007).
- Overweight and obesity are commonly assessed by using Body Mass Index (BMI), which is defined as the person's weight in kilograms divided by the square of their height in metres (kg/m^2). According to the [World Health Organization](#) (WHO), in adults a BMI of 25 to 29.9 kg/m^2 is defined as 'overweight', and a BMI of 30 kg/m^2 or more is defined as 'obese.' However, measuring overweight and obesity in children aged 5 to 14 years is challenging because there is not a standard definition of childhood obesity applied worldwide.

National context

- Between the ages of 2 and 10, there is a steady increase in the proportion of children who are overweight (including obese) and obese only, in both sexes.
- Obesity prevalence is lowest among children in managerial and professional households
- Obesity is almost four times more common in Asian children than in white children.

Trends

National

- Obesity is rising. Almost a third of children are either overweight or obese, and work by the Government Office for Science's [Foresight Programme](#) suggests that, without clear action, these figures will rise to almost two-thirds of children by 2050.
- Childhood obesity levels have risen dramatically, particularly in the last 20 years.

- Severely obese individuals (BMI>45) are likely to die on average 11 years earlier (13 years for a severely obese man between 20 and 30 years of age) than those with a healthy weight¹.
- A greater percentage of boys than girls aged 2-10 years are overweight and a greater percentage of boys are obese compared to girls.
- The House of Commons Health Select Committee estimated that the total annual cost of obesity and overweight for England in 2002 was nearly £7 billion. This total includes direct costs of treatment, the cost of dependence on state benefits, and indirect costs such as loss of earnings and reduced productivity including an annual total of 45,000 lost working years. (Newcastle Obesity Strategy (NOS), 2008)

Newcastle upon Tyne

- One in every three children (as measured at school reception age and year six) in Newcastle upon Tyne is either overweight or obese² (briefing 2008)
- It is estimated that there are about 3,000 children in Newcastle upon Tyne aged 2-10 who are classified as obese (over the 95th centile), with a further 2,600 classified as overweight (over 85th centile).
 - 1,250 - 4-10 year olds who are obese (98th centile)
 - 2,927 - 4-10 year olds who are obese (95th centile)
 - 245 (10.9%) - children in Reception who are obese (95th centile)
 - 465 (21.3%) - children in Year 6 who are obese (95th centile)
 - 306 (13.6%) - children in Reception who are overweight (85th-95th centile)
 - 316 (14.5%) - children in Year 6 who are overweight (85th-95th centile)²

Source: NOS, 2008

- Measurements of Year 6 pupils show that schools in areas with higher deprivation are more likely to have higher levels of overweight and obesity. (NOS, 2008)
- The number of children in Newcastle upon Tyne eating five or more daily portions of fruit and vegetables is approximately 34% (national rate is 38%)³ (Briefing, 2008)
- If the current trend in rising obesity continues, the estimated NHS costs attributable to elevated BMI (overweight and obesity) for Newcastle upon Tyne⁴ are set to grow from £24.9 million in 2007/08 to £37.4 million in 2015 and £57.5 million in 2050 (NOS, 2008)

¹ Fontaine, K.R., Redden, D.T., Wang, C. et al (2003) Years of Life Lost Due to Obesity. *Journal of the American Medical Association*; 289:187–93

² For a comparison to other PCTs see National Child Measurement Programme: Results from the 2006/7 School Year (February 2008) <http://www.ic.nhs.uk/statistics-and-data-collections/health-and-lifestyles/obesity/national-child-measurement-programme:-results-from-the-2006-07-school-year>

³ Improving Health is Everyone's Business, a ten year health improvement strategy for Newcastle 2007-2017

⁴ using proportion of national estimates for Newcastle PCT 2006/07 allocations

Targets

The Newcastle Obesity Strategy (2007) built on the targets set by the government departments with responsibility for health, education and sport within the Public Service Agreement. The targets and priorities included:

- To halt by 2010 (from the 2002-2004 baseline) the year-on-year increase in obesity among children under 11 in the context of a broader strategy to tackle obesity in the population as a whole.
- Further enhance access to culture and sport for children and give them the opportunity to develop their talents to the full and enjoy the full benefits of participation by: Enhancing the take-up of sporting opportunities by 5 to 16 year olds by increasing the percentage of school children who spend a minimum of two hours each week on high quality PE and school sport within and beyond the curriculum from 25% in 2002 to 75% in 2006 and to 85% by 2008 in England, and at least 75% in each School Sport Partnership by 2008

The [Sustainable Communities Strategy and Local Area Agreement](#) for Newcastle (2008-2011) and Vital Signs target for Yr 6 levels of obesity were set according to the DH guidance⁵ and can be seen in the table below.

Figure 1 - NI 56 obesity among primary school age children in year 6 (*35 target LAA)			
Current performance	LAA and Vital Signs Targets		
2006/07	2008/09	2009/10	2010/11
21.3%	21.3%	21.3%	21.2%

Performance

Indicators

In addition to the LAA targets for Year 6, the Newcastle Obesity Strategy highlighted the requirement to collect information on additional indicators. This includes obesity levels in years 6 and reception that is also required by the JSNA core dataset (Figure 2)

Figure 2 – Indicators for obesity and overweight children required by NOS (2008)			
	Indicator	Source	Timing
1	% children in Yr 6 who are obese	NCMP	Annually
2	% children in Yr 6 who are overweight or obese	NCMP	Annually
3	% children in Reception who are obese	NCMP	Annually
4	% children in Reception who are overweight or obese	NCMP	Annually

⁵ How to set and monitor goals for prevalence of child obesity: guidance for Primary Care Trusts (PCTs) and local authorities, Department of Health, Feb 2008

Overall, the percentage of children in reception and year 6 who are overweight or obese has decreased year on year in Newcastle upon Tyne since 2004/05 (Figure 3).

Figure 3 - NI 56 obesity among primary school age children in year 6 and obesity among reception year (R)									
	Overweight			Obese			Overweight and Obese		
Year	R	Yr 6*	R+Yr 6	R	Yr 6*	R+Yr 6	R	Yr 6*	R+Yr 6
2004/05	16.1%			13.3%			29.5%		
2005/06	15.3%	16.2%	15.7%	11.8%	22.9%	17.2%	27.1%	39.1%	32.9%
2006/07	13.5%	14.6%	14.0%	11.0%	21.4%	16.1%	24.4%	35.9%	30.1%

*Yr 6 in 2005/06 contained some from Yr 7

Source: Strategy 2008

Local views

Community Action On Health (CAOH) held events in August 2006 to identify community themes and issues for inclusion in the 10 year Health Improvement Strategy (Figures 4 & 5)

Figure 4 – Obesity issues identified at CAoH event:
<p>Education / awareness issues</p> <ul style="list-style-type: none"> • more education around healthy food opinions and nutrition • more education around benefits of being active • more education within schools • Health warnings on junk food <p>Culture issues:</p> <ul style="list-style-type: none"> • More home cooking • Employers taking more interest in the health of employees • Diet is key to health, encourage healthy eating • Lifestyle education <p>Support issues:</p> <ul style="list-style-type: none"> • More supermarkets offering more fresh food • Access to organic fresh food at local shops • Improved access to activities • More healthy living projects • More healthy eating centres – breakfast clubs for children and older people • More clean, green spaces • Affordable leisure activities • More support for people to produce their own healthy food • Support information should be easy to understand

Source: NOS, 2008

A number of outcomes and actions were identified during action planning events for the Health Improvement Strategy in December 2006:

Figure 5 – Obesity outcomes identified at CAoH event:

To tackle the growing rate of obesity a number of **outcomes** were suggested:

- Obesity levels in children
- Physical activity levels in children
- Levels of social isolation
- Levels of expectation about good diet and nutrition
- Access and utilization of green open spaces
- Consumption of good quality food products

The following specific **action points** were suggested:

- Deployment of community nutrition assistants
- Community cooking skills/courses
- More funding for green spaces
- Ensure facilities don't provide unhealthy snacks
- Proactive support for local shops
- Schools need to provide a range of options in addition to sport i.e. exercise options that are not competitive
- Free leisure facilities and public transport for young people
- Encourage activity as part of life- not as separate activity
- More lobbying about food marketing, need to be able to compete to successful promote health message
- Pricing policies that encourage healthy choices

Source: NOS, 2008

National and local strategies

The **Health Improvement Strategy** (2007) for Newcastle upon Tyne includes tackling the issue of being overweight or obese as one of eight health priorities for the city. The strategy listed a number of outcomes to target as well as initiatives and interventions to support people currently engaged in a weight loss programme:

- Improving diet, by increasing fruit, vegetable and fibre consumption and reducing saturated fat, salt and sugar intake
- Increasing physical activity and encouraging lifelong physical activity
- Supporting individuals and families in a community based setting
- Involving schools, breakfast and after school clubs in promoting healthy eating and school travel plans which can increase cycling, walking and bus use
- Breastfeeding is known to reduce the likelihood of childhood obesity. Interventions to support mothers to initiate and sustain breastfeeding are known to increase breastfeeding

The **Newcastle Obesity Strategy** (2007) was agreed in response to the HIS and using the **Lightening the load: Tackling overweight and obesity** toolkit (2007). It put forward two interventions to tackle obesity:

- Prevention - interventions aimed at preventing overweight developing in the first place, from childhood onwards
- Weight management - interventions aimed at weight reduction or weight control in people who have become overweight or obese

Priorities for actions are:

1. Improving diet
2. Increasing physical activity

1. Improving diet

Locally, the **Healthy Eating Action Plan** aims “to work in partnership to contribute to the improvement of the health of individuals and communities, living, working and visiting Newcastle upon Tyne, through enabling people to choose and eat healthier food.”

Overall the aim is to increase community levels of expectation about good diet and nutrition through:

- working to overcome disadvantage and inequality
- increasing breastfeeding and improve weaning/eating habits of children
- ensuring that all people working on nutrition are suitably trained
- developing a programme of practical cooking skills courses
- supporting implementation of the Improving School Food and Drink Plan
- ensuring that environments reflect healthy eating messages
- supporting the development of community food initiatives and projects
- providing community based intervention for people with medical conditions affected by eating choices
- supporting the implementation of healthy eating policies in the workplace

2. Increasing physical activity

Locally we want to increase physical activity levels in children and adults through:

- increasing the amount of people who take part in regular physical activity
- ensuring this is sustained
- ensuring that the type and frequency of activity is appropriate to the particular target group
- monitoring and evaluating participation
- continuing to work in partnership with health agencies and other professionals so that exercise and nutrition are seen as complementary in addressing obesity.
- supporting access and utilisation of green open spaces

The Newcastle Obesity Strategy also summarised the following national recommendations regarding the prevention and management of obesity that relate to children:

NHS

The overarching recommendation is that primary care needs to ensure that preventing and managing obesity is a priority at both strategic and delivery levels. Dedicated resources should be allocated to support local action.

Specifically trained professionals need to be enabled to provide:

- interventions to increase physical activity which focus on activities that fit easily into people’s everyday life

- interventions to improve diet (and reduce energy intake) which include targeted advice, family involvement and goal setting
- long term interventions rather than one-off activities may include promotional, awareness-raising activities
- all actions aimed at preventing excess weight gain and improving diet and activity levels in children and young people should actively involve parents and carers.

Health professionals working in broader community settings, e.g. Healthy Living Centres and Sure Start Children's Centre need to ensure that:

- all community programmes to prevent obesity, increase activity levels and improve diet should address the concerns of local people from the outset
- they work with shops, supermarkets, restaurants, cafés and voluntary community services to promote healthy eating choices
- they support and promote behavioural change programmes with tailored advice to help people who are motivated to change
- families of children and young people identified as being at high risk of obesity should be offered ongoing support from an appropriately trained health professional
- individual as well as family-based interventions should be considered where appropriate.

Local Authorities

As the environment in which people live influences their ability to maintain a healthy weight Local Authorities are charged with:

- engaging with local communities, to identify environmental barriers to physical activity and healthy eating
- assessing the affect of their policies (health impact assessment) on the ability of their communities to be physically active and eat a healthy diet
- encouraging all local shops, supermarkets and caterers to promote health food and drink
- addressing the needs of local people through community-based programmes to prevent obesity, and increase activity levels
- developing longer-term, multi-component interventions rather than one-off activities.

Early Years Settings

As the pre-school years are a key time for shaping lifelong attitudes and behaviours, childcare providers can create opportunities for children to be active and develop healthy eating habits, and can act as positive role models:

- all nurseries and childcare facilities should ensure that preventing excess weight gain and improving children's diets and activity levels are priorities
- all actions aimed at preventing excess weight gain, improving diet and increasing activity levels in children should involve parents and carers
- sedentary activities should be minimized during play time
- regular opportunities for enjoyable active play and physical activity sessions should be provided
- official guidance on food procurement and healthy catering should be implemented

- staff should ensure that children eat regular, healthy meals in a pleasant, sociable environment free from other distractions (such as television).

Schools

During their schools years, people often develop lifelong patterns of behaviours that affect their ability to keep a healthy weight. The overarching recommendations are:

- All schools should ensure that improving the diet and activity levels of children and young people is a priority for action to help prevent excess weight gain, utilizing a whole school approach
- Schools should ensure that the ethos of all school policies helps children and young people maintain a healthy weight
- Where possible, parents should be involved in school-based interventions e.g. special events, newsletters and information about lunch menus and after-school activities

Healthy Weight, Healthy Lives: A Cross Government Strategy for England (2007) supports the creation of a healthy society - from early years, to schools and food, from sport and physical activity to planning, transport and the health service. Local objectives have been identified:

Figure 6 - Healthy Weight, Healthy Lives goals used to form local objectives

Children: healthy growth and healthy weight	<ul style="list-style-type: none"> • As many mothers breastfeeding up to 6 months as possible, with families knowledgeable about healthy weaning and feeding of their young children • All children growing up with a healthy weight by eating well, for example by eating at least 5 portions of fruit and vegetables a day • All children growing up with a healthy weight by enjoying being active, for example by doing at least one hour of moderately intensive physical activity each day • Parents have the knowledge and confidence to ensure that their children eat healthily and are active and fit • All schools are Healthy Schools, and parents who need extra help are supported through children's centres, health services and their local community
Promoting healthier food choices	<ul style="list-style-type: none"> • More eligible families signing up to the Healthy Start scheme • Less consumption of high fat, sugar, salt (HFSS) foods, especially by children • More consumption of fruit and vegetables – more people eating 5 A DAY, especially children • More healthy options in convenience stores, school canteens, vending machines, at supermarket tills and at non-food retailers
Building physical activity into our lives	<ul style="list-style-type: none"> • More people, more active, more often, particularly those individuals and families who are currently the most inactive • Reduced car use, especially for trips under a mile in distance • More outdoor play by children
Personalised support for overweight and obese individuals	<ul style="list-style-type: none"> • Everyone able to access appropriate advice and information on healthy weight • Increasing numbers of overweight and obese individuals able to access appropriate support and services • Local staff/practitioners understanding their role and empowered to fulfill it

Source: NOS, 2008

Other relevant existing strategies include

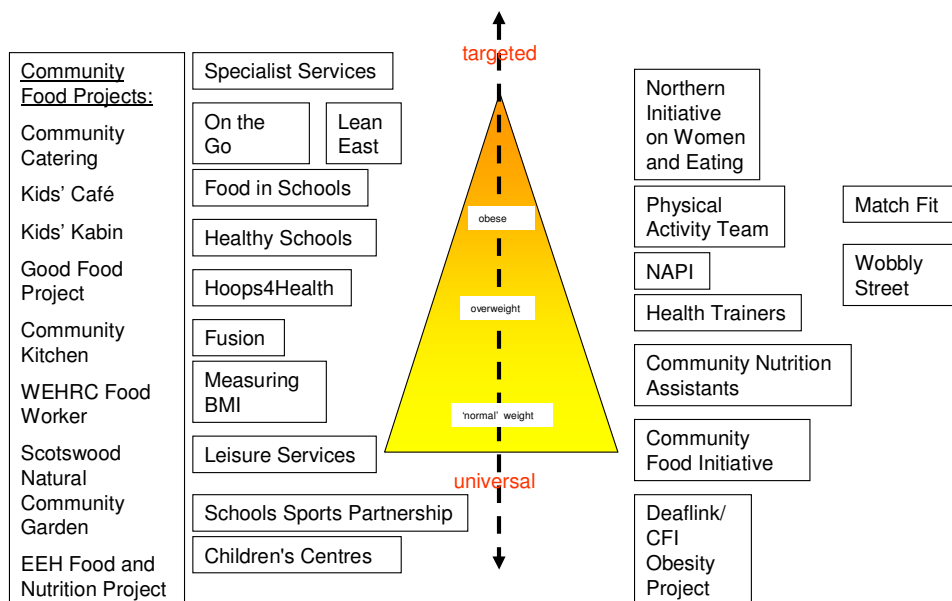
- Green Spaces Strategy
- Physical Activities Strategy
- Breastfeeding Strategy

National Institute of Clinical Excellence (NICE) guidance was issued in 2006 on the prevention, identification, assessment and management of overweight and obesity in adults and children in England and Wales. The recommendations in the guidance cover advice on the prevention of overweight and obesity that applies to local authority settings as well as the NHS. The guidelines key features include;

- long term investment,
- partnership working across all agencies,
- community involvement,
- evidence-based solutions,
- projects and programmes that provide the best opportunity for sustained actions,
- interventions that address the needs of the local population.

Current activity and service provision (What are we doing now?)

Current service provision - children



Source (NOS, 2008)

The 2008 Strategy takes a Life Course approach to identify project areas. There is a particular focus on preconception to early years interventions as these seem to be the times in people's lives where their biology is 'programmed' to be less obese in the future. There is a separate Newcastle Breastfeeding and Weaning Strategy dealing with some of these issues.

Improving diet

- Specialist Weight Management Service (SWiMS) - A skilled, multi-disciplinary team providing comprehensive, community based specialist weight management service.
- Newcastle Nutrition - Community Dieticians provide training and manage a citywide team of Community Nutrition Assistants.
- Healthy Schools Status - There are currently 73 (out of 93) schools in Newcastle upon Tyne with Healthy School Status. This includes healthy eating and physical activity policies.
- Food in Schools - A multi-agency Food in Schools group has been coordinating work across the city. The appointment of a Food in Schools Coordinator will drive this work forward.

Improving physical activity

- Our managed facilities - We have a network of leisure centres and swimming pools across the city that provides opportunities for physical activity, from coached classes to fitness suites. These services produce hundreds of thousands of visits each year. Of particular importance is the swimming development service – teaching people to swim can save lives, but can also open up a life of water based activity that they could not get involved with if they couldn't swim.
- The Physical Activity Team - Funded by the PCT and employed by the City Council, the P.A.T. increase participation rates in physical activity by working with local communities to develop and promote opportunities for physical activity with particular reference to those in greatest need. They also work with health services and other agencies to develop opportunities for physical activity for people with specific health needs/conditions.
- Health Trainers - The West End Health Resource Centre has deployed seven health trainers in a number of difference communities within the City. They will work with agencies (including the P.A.T) to help people take advantage of a range of healthy living activities across the City.
- "On the Go" - A Sport England funded referral programme for children aged 8-16 years who have been identified as overweight or obese. Regular physical activity is combined with 'lifestyle' education including healthy eating, positive self image, and 'whole family' engagement/ initiatives. The programme also undertakes some preventative work through schools, community groups and partner agencies
- The Year of Exercise and Sport 2006 - A year long intervention aimed at increasing participation in exercise and sport in the City.
- Leisure Investment Plan - Investment in Leisure Centres and their staff to increase the take up of opportunities for activity by communities across the City.
- Sport England "Everyday Sport" Campaign - We've supported the targeted everyday sport campaign in Newcastle upon Tyne, where Sport England have introduced a media campaign in the city which focuses on the areas of greatest health deprivation
- Parks and Green spaces - A service that makes a fundamental contribution to physical activity. Well managed, safe and clean parks and open spaces encourage people to walk, play and take part in sports, usually in their local neighbourhood. Play areas provide the opportunity for fun, exercise and social interaction; Allotments provide exercise and healthy food. Creating a network of

linked open spaces can make a considerable contribution to increasing general levels of activity, particularly walking

- Spatial planning and regeneration - Following on from this, it makes sense that if the developing Area Action Plans for the city recognise the need to create communities where walking, cycling and public transport are the predominant modes of transport then there will be a step change in physical activity levels in our communities.
- Supporting the voluntary sector - There is an enormous amount of work undertaken by sports clubs and community organisations that involve residents in activity in community centres and playing fields across the city.

Each project area has been tasked with looking at workforce training and capacity issues. It is important that everyone working at a local level is clear about their role in promoting the benefits of a healthy weight and that appropriate training is available so that both health and non-health professionals feel confident in sensitively raising the issue of weight with those who are overweight or obese.

In order to lay the foundations of an effective obesity strategy and action plan the 2008 strategy update highlighted the need to

- Agree overarching indicators **(by Aug 2008)**
- Complete evidence based checklist **(by Aug 2008)**
- Agree objectives and indicators for each project area including workforce development **(by September 2008)**
- Set up a systematic process for monitoring indicators (both overarching and project specific) **(by September 2008)**
- Ensure that the priorities feed into commissioning processes for the PCT and LA **(by September 2008)**

What investment is there?

- Current costs for childhood obesity interventions (paediatric referrals, 'On the Go', and anti-obesity drug prescriptions) are estimated at £233K.
- Scaling up childhood interventions so that 5% of the estimated 13,000 children aged 2-16 years who are overweight or obese are referred to paediatrics, with 2% of those seen by the specialist endocrinology paediatricians, 12% of the overweight or obese children aged 8-16 years seen by 'On the go', and 70% of eligible children for anti-obesity medication taking up the offer would cost an estimated £762K. (Costing report)

What is this telling us?

What are the key inequalities?

Childhood overweight and obesity are more common among boys (under ten), Asian families and poorer families, thus it is more common in areas with high levels of deprivation.

In Newcastle upon Tyne there is evidence that there is a higher rate of overweight and obesity among children in Yr 6 living in deprived areas.

What are the key gaps in knowledge / services?

Capacity and uptake

The Costing Report on obesity services in Newcastle upon Tyne concluded:

- Current capacity and uptake of interventions to deal with the need for the treatment of obesity is very low when compared with need. For children, only 4% of children eligible for 'On the go' are able to access it. However, an estimated 50% of children eligible for anti-obesity medication are prescribed it (but these numbers are low).
- However, scaling up interventions to cope with more of the need would require considerable investment. Scaling up childhood interventions so that 5% of the estimated 13,000 children aged 2-16 years who are overweight or obese are referred to paediatrics, with 2% of those seen by the specialist endocrinology paediatricians, 12% of the overweight or obese children aged 8-16 years seen by 'On the go', and 70% of eligible children for anti-obesity medication taking up the offer would cost an estimated £762K.
- There may be issues (which are not dealt with here) about people's engagement with a scaled up programme. There are some expressed concerns from practitioners that people do not want to access anti-obesity interventions as obesity is not seen as a problem to them.

What are the risks of not delivering our targets?

Cost

- If the current trend in rising obesity continues, the estimated NHS costs attributable to elevated BMI (overweight and obesity) for Newcastle upon Tyne⁶ are set to grow from £24.9 million in 2007/08 to £37.4 million in 2015 and £57.5 million in 2050. Investment in preventative measures are as, if not more, important for the future.
- A rough calculation based on the Commons Health Select Committee (2004) that NHS expenditure is about 1/7th of the total in conjunction with the 2008 Newcastle Strategy (see previous paragraph) suggests that the wider economic impact in Newcastle upon Tyne is currently in the region of £175 million and will rise to at least £260 million within ten years.
- There has been considerable disagreement about the longer term predictions which would be relevant to assessing the potential impact of today's overweight and obese children ([Foresight](#) report 2007, [Commons Select Committee](#) 2004, [BBC News](#) 22/11/07); however, what is clear that all are estimating huge costs with the associated personal and emotional costs to the individuals and their families.

Is what we are doing working?

There is little evidence that that target of halting the year on year rise in childhood obesity by 2010 will be met either locally or nationally.

⁶ using proportion of national estimates for Newcastle PCT 2006/07 allocations

The Obesity Strategy for Newcastle upon Tyne outlines an evaluation and monitoring process but it is too soon to see the results of this.

What is coming on the horizon?

There is likely to be increasing political pressure to do more to address childhood obesity.

Huge costs of obesity with the associated personal and emotional costs to the individuals and their families have been predicted

What should we be doing next?

1. There needs to be serious consideration of the resources needed to invest in preventive services, and in all other tiers of the obesity pathway for children and the ways in which these will be different to adult services.
2. However, the [Nice Obesity guideline](#) (CG 43, 2006) highlights the lack of research and evidence to support interventions to manage or prevent obesity, therefore any investment would need to be phased, with each phase subject to a cost-effectiveness evaluation before moving to the next phase.
3. There needs to be continued development of partnership working in order to address the wider causes of increasing rates of overweight and obesity, for example through planning and transport policies within the city, and encouraging a greater uptake of physical activity.

References

1. Strategy 2008 - Newcastle Obesity Strategy (refresh) - Working document - Current position Aug 2008
2. Briefing 2008 - Community Action on Health, Obesity issues in Newcastle, A briefing paper for Health Action Network members, February 2008
3. Costing report - Obesity costing report – undated
4. Strategy 2007 - An Obesity Strategy for Newcastle upon Tyne, May 2007
5. HIS events 2006 - Developing a Health Improvement Strategy, Voluntary and Community Sector Engagement Events, August 2006